



A lone kayaker paddles the calm waters of Little Cliff Pond. (See Appendix G for photo information.)

SECTION 7. ROLAND C. NICKERSON STATE PARK

7.1. INTRODUCTION

Roland C. Nickerson State Park is located in the towns of Brewster and Orleans, at Cape Cod's "inner elbow." (Figure 7.1) It was the first state park, or "state forest park" as it was originally called, in the Commonwealth. The park was established in 1934 when members of the Nickerson family donated approximately 1,727 acres to the state in memory of Roland C. Nickerson, Junior and Senior. All lands were located south of Route 6A. Prior to the donation, the property had been used as the Nickerson's private game preserve (Edmonds 1988); a use reflected in the name of the park's main road, Deer Park Road. Development of recreation infrastructure began almost immediately after the park's establishment; it continued through the 1970s.

In 1983, the park expanded northward to the shores of Cape Cod Bay. It now included coastal resources and recreation opportunities. Also acquired in the expansion were dozens of buildings, including the historic Crosby Mansion and Crosby House.

Today, Nickerson is perhaps best known for its campground, the largest in the Complex; water-based recreation, and for its connection to the Cape Cod Rail Trail.

The park's physical, political, and regulatory attributes are summarized in Table 7.1.1.

Associated Properties. Two additional properties are included in this section, they are:

- **Former Gavigan Property.** This 0.78 acre parcel is located directly on Cape Cod Bay, at 64 Willie Atwood Road, Orleans. It was acquired in 1998 to provide coastal access as part of the Namskaket Sea Path. There are no developed facilities.
- **High Head.** This 1.06 acre parcel is located between Routes 6 and 6A in Truro. It is part of a larger conservation area owned by the town, Massachusetts Department of Public Works (now MassDOT), and the DCR. A 1988 Acquisition and Management Agreement restricts its use to passive recreation.

Nickerson state park personnel manage, as time and resources permit, all DCR properties on the mid and lower Cape. This includes Hawksnest State Park (Section 8), Cape Cod Rail Trail (Section 9), and Brewster State Forest (Section 14).

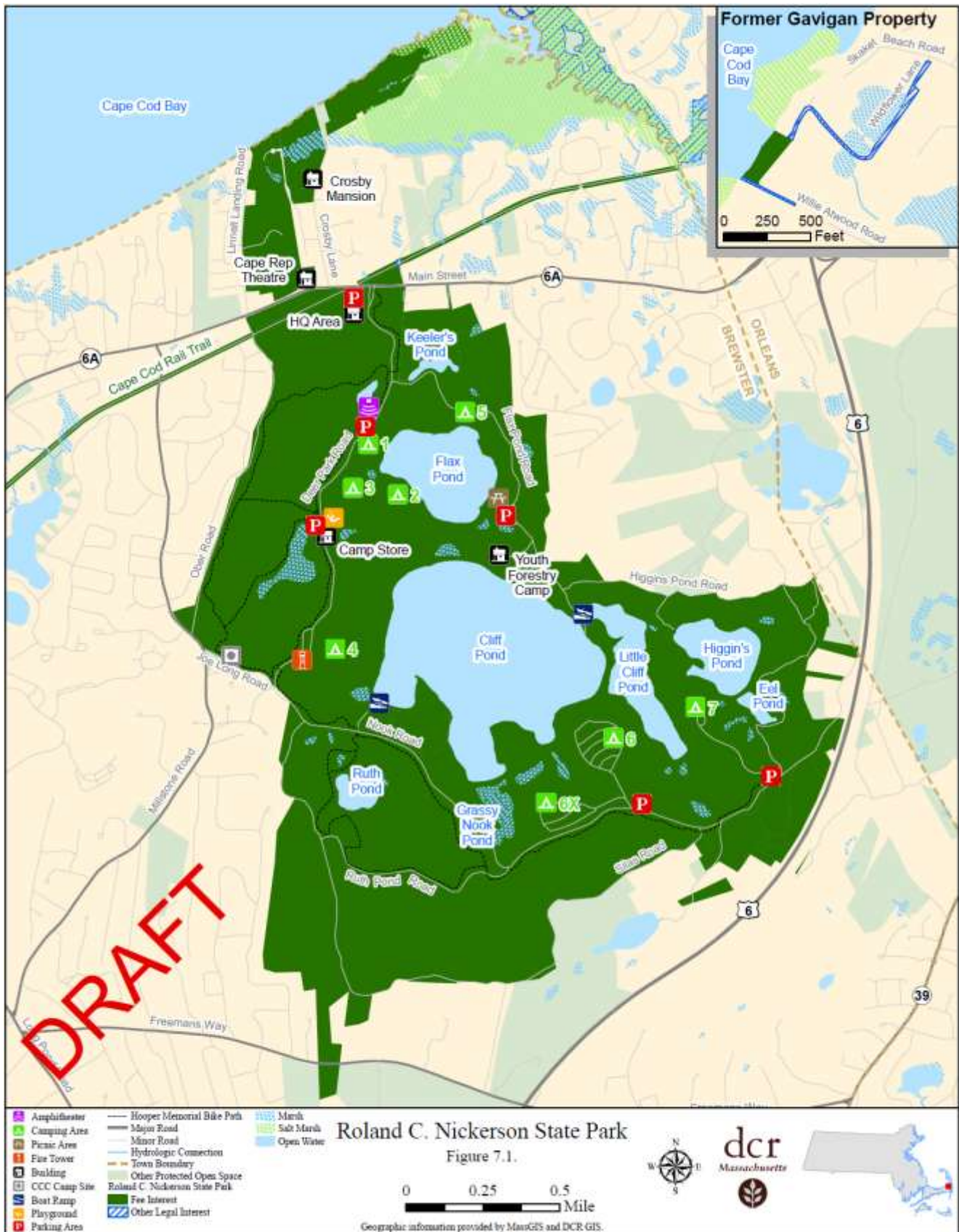


Table 7.1.1. Physical, political, and regulatory settings of Nickerson state park and associated properties.

Setting	Name or Metric
Location:	Brewster, Orleans
Area (acres)^a:	1,978.01
Perimeter (miles)^a:	15.96
Landscape Designation(s)^b:	Parkland
Legislative Districts:	
House	First Barnstable Fourth Barnstable
Senate	Cape and Islands
Regulatory Designations:	Priority Habitat Inner Cape Cod Bay ACEC Outstanding Resource Waters – Inner Cape Cod Bay ACEC Old King’s Highway Regional Historic District

- a. Calculated using a Geographic Information System (GIS).
b. For a summary of DCR’s landscape designations, see <http://www.mass.gov/eea/docs/dcr/ld/ld-factsheet-final.pdf>.

One state park, formerly managed by Nickerson personnel, no longer exists. In 1955 Pilgrim Spring State Park was established in Truro, along High Head Road. In 1962 it was incorporated into the newly created Cape Cod National Seashore. The park’s sign, which now hangs in the garage at Nickerson, is the one of the few remaining indicators of its existence.

7.2. NATURAL RESOURCES

Physical Features

Nickerson state park generally increases in elevation from north to south. On Cape Cod Bay, the park is at sea level. Elevation increases to approximately 40 feet above sea level at the Crosby Mansion and 50 feet at the park entrance. The central portion of the park includes a series of ponds and wetlands that are located in kettle holes. Surface elevations for these ponds are approximately 25 feet. Elevations increase quickly as you move away from the ponds in any direction; surrounding uplands have elevations of approximately 100 to 130 feet. This pattern of relatively gentle topography punctuated by multiple ponds in bowl-like depressions extends westward, southward, and eastward out of the park.

Water Resources

Nickerson has abundant water resources, with freshwater ponds, and freshwater and estuarine wetlands. These resources are summarized in Table 7.2.1.

Table 7.2.1. Water resources of Nickerson state park and associated properties.

Water Resource	Name or Metric
Watershed:	Cape Cod
Aquifer:	Cape Cod SSA
Lens	Monomoy
Rivers and Streams (miles)	0.02
Vernal Pools	
Certified (#)	8
Potential (#)	7
Wetlands (acres)	48.54
Lakes and Ponds (acres)	325.50

Many of the larger ponds have impaired water quality. (Table 7.2.2) Only the waters of Little Cliff Pond are not impaired. The shallow portions of two other ponds, Flax and Higgins, also meet water quality standards for healthy ecosystems. This does not directly reflect their ability to support recreational use. Information on water quality as it relates to the park’s water-based recreation is presented in Section 7.4.

Observed differences in nutrients indicate that Flax, Cliff, and Higgins ponds are stratified. (Table 7.2.2) Flax and Cliff ponds also have excessive phosphorous and nitrogen; such conditions typically lead to increased phytoplankton growth and decreased oxygen concentrations. These conditions contribute to the blue green algae blooms that have periodically occurred in Cliff Pond since the late 1990s. Such blooms result in beach closures and pose a health risk to humans, pets, and wildlife. They are driven by the release of phosphorous from iron compounds in anoxic sediments, which has created “a self-sustaining cycle of declining water quality and overall pond condition that is independent of any watershed influences” (Water Resource Services, Inc. 2014).

Table 7.2.2. Relationships between water quality parameters and environmental thresholds for monitored ponds in Nickerson state park^a.

Pond^b	Dissolved Oxygen^c	Total Phosphorous^d	Total Nitrogen^e
Flax Pond (Shallow)	Meets	Meets	Meets
Flax Pond (Deep)	Fails	Fails	Fails
Cliff Pond (Shallow)	Fails	Fails	Meets
Cliff Pond (Deep)	Fails	Fails	Fails
Little Cliff Pond	Meets	Meets	Meets
Higgins Pond (Shallow)	Meets	Meets	Meets
Higgins Pond (Deep)	Fails	Meets	Meets
Eel Pond	Fails	Fails	Fails

- Based on Coastal Systems Group and Cape Cod Commission (2009).
- Shallow ponds are less than 9 meters (i.e., 29.5 feet) deep (Coastal Systems Group and Cape Cod Commission 2012). Deep ponds often stratify by temperature so that shallow and deep waters do not mix, resulting in depth-related differences in water quality.
- Concentrations at or above 5 milligrams per liter are considered to meet water quality standards for healthy pond ecosystems.
- Concentrations below 10 micrograms per liter are considered to meet standards for healthy pond ecosystems.
- Concentrations below 31 milligrams per liter are considered to meet standards for healthy pond ecosystems.

The impacts of flooding, hurricane inundation, and sea-level rise are projected to have only minor impacts on the park. (Table 7.2.3) However, these impacts are disproportionately concentrated on the shore of Cape Cod Bay and in Namskaket Marsh where they may be severe. No critical park or recreation facilities are predicted to be affected by coastal flooding, storm-related inundation, or sea-level rise.

Table 7.2.3. Potential impacts of flooding, hurricane inundation, and sea-level rise to Nickerson state park and associated properties.

Type of Impact	Acres	%
Flooding:		
100-year Storm	420.25	21.25
500-year Storm ^a	420.25	21.25
Hurricane Inundation:		
Category 1 Storm	8.47	0.43
Category 2 Storm ^b	30.52	1.54
Category 3 Storm ^b	42.95	2.17
Category 4 Storm ^b	50.62	2.56
Sea Level Rise	16.40	0.83

- Cumulative value; includes 100-year storm impacts.
- Cumulative value; includes impacts of all lower category storms.



Predicted hurricane inundation of coastal portions of Nickerson. Areas predicted to be inundated by Category 1 storms are represented in light green; additional areas inundated by Category 2, 3, and 4 storms are represented in dark green, yellow, and red, respectively. Linnell Landing Road is at the bottom left of the photo. (See Appendix G for photo information.)

All of the park's ponds and pond shores are within the 100-year flood zone. Infrastructure within this zone includes the Cliff and Little Cliff pond boat ramps, and boat rental concession buildings on Cliff and Flax Ponds.

The park serves as an important groundwater recharge area for the Monomoy Lens of the Cape Cod SSA; the source of Brewster's water. Potable water for the park originates in municipal wells, which are located off-site.

There is one continuous barrier beach (Br-1); it extends from Linnell Landing Road eastward to the Orleans Town Line. There is no management plan for this beach.

Rare Species

State-listed Species

Twenty-one state-listed species are known from the state park. (Table 7.2.4) Most are associated with barrier beaches and coastal plain pondshores. As of this writing, the spatterdock darter has been proposed for delisting under MESA.

Table 7.2.4. State-listed species of Nickerson state park and associated properties, as identified by the NHESP.^{a,b}

Species ^{a, b}	Type ^c	MESA ^d
Acadian quillwort	P	E
Attenuated bluet	I	T
Common tern	B	SC
Common's panic-grass	P	SC
Diamond-backed terrapin ^e	R	T
Dwarf bulrush	P	T
Eastern box turtle ^f	R	SC
Long-beaked bald-sedge	P	SC
Maryland meadow beauty	P	E
Mitchell's sedge	P	T
Oysterleaf	P	E
Pine barrens bluet	I	T
Piping plover ^g	B	T
Plymouth gentian	P	SC
Pondshore knotweed	P	SC
Roseate tern ^h	B	E
Salt reedgrass	P	T
Scarlet bluet	I	T
Seabeach dock	P	T
Spatterdock darter	I	SC
Terete arrowhead	P	T

- Presented alphabetically, by common name.
- Fact sheets are available at:
<http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/ mesa-list/list-of-rare-species-in-massachusetts.html>.
- Types of state-listed species include: A = Amphibian; B = Bird; I = Insect; P = Plant; and R = Reptile.
- Status of species listed under the Massachusetts Endangered Species Act (MESA): E = Endangered, SC = Special Concern; and T = Threatened.
- Recorded at both Nickerson and the Namskaket Sea Path parcel.
- Recorded in Nickerson, and the High Head and Namskaket Sea Path parcels.
- This species is also federally threatened.
- This species is also federally endangered.

Priority Habitat

Much of Nickerson (73.04%) has been designated Priority Habitat under MESA. Exceptions include much of the former Camp Monomoy and some southern portions of the park. Most of the former Gavigan property (80.61%) and all of the High Head property (100.00%) are also designated Priority Habitat.

Vegetation

There have been no comprehensive surveys of the flora of Nickerson. However, the regular monitoring of forest inventory plots provides basic information on common species present.

In general, the park's vegetation is a variable mixture of oaks and pitch pine in the canopy, with an understory of blueberries, black huckleberry, poison ivy, greenbrier, spotted wintergreen. Red maple, black gum, sassafras, and viburnums occur in moister sections of the uplands. Red and white pine plantations are also present. Wetlands may be dominated by trees (e.g., red maple, Atlantic white cedar), shrubs, or herbaceous vegetation (e.g., salt marsh). Dunes are dominated by American beach grass, with clusters of shrubs (e.g., eastern red cedar, salt spray rose) interspersed.

Recent investigations into the ecology of Cliff Pond identified common rooted and floating aquatic plants (Water Resource Services, Inc. 2014).

Invasive Species

Five species of invasive plants have been incidentally observed. (Table 7.2.5) One or more unidentified species of honeysuckle, a group of plants that are commonly invasive in Massachusetts, have also been observed.

Table 7.2.5. Known invasive and likely invasive plants of Nickerson state park and associated properties.

Species ^a	Status ^b
Black locust	I
Common reed	I
Oriental bittersweet	I
Purple loosestrife	I
Tree of heaven ^c	I

- a. Presented alphabetically, by common name.
b. Plants are classified as being either Invasive (I) or Likely Invasive (L) according to MIPAG (2005).
c. Reported in DEM (1993); not field verified for this RMP.

Natural Communities

There are nine known natural communities. (Table 7.2.6) those associated with coastal plain ponds and dune systems are uncommon in Massachusetts. Additional community types are likely present.

Table 7.2.6. Known natural communities of Nickerson state park and associated properties.

Community Type ^a	System ^b	State Rank ^c	Source ^d
Coastal Plain Pondshore	T	S2	1
Deep Emergent Marsh	P	S4	2
Estuarine Intertidal: Salt Marsh	E	S3	1
Maritime Beach Strand	T	S3	3
Maritime Dune	T	S2	3
Pitch Pine-Oak Forest	T	S5	1
Red Maple Swamp	P	S5	3
Shallow Emergent Marsh	P	S4	2
Shrub swamp	P	S5	2

- a. Classified according to Swain and Kearsley (2011).
b. E = Estuarine, P = Palustrine, T = Terrestrial.
c. The NHESP ranks communities from most rare (S1) to the most common (S5).
d. Information contained in this table was obtained from the following sources:
1. NHESP (2008).
2. DEP Wetlands (1:12,000) data layer.
3. Observed by RMP Planner.

Forests

Much of Nickerson (68.94%), including its campsites, is forested. Non-forested areas include

power line rights-of-way, roads and parking areas, cultural grasslands, fresh and saltwater wetlands, and dunes. None of the former Gavigan property is classified as forested, while all of the High head parcel is classified as forested.

A 2005 winter storm caused severe blowdown in the campgrounds and surrounding forest. Clean up efforts focused on returning the campgrounds to usable conditions. The impacts of the storm may still be observed in reduced tree cover at some campsites, as downed trees in the forest, and in two log and stump piles created by the cleanup. The disposal of stumps in Massachusetts is regulated by 310 CMR 19.00; see Appendix E for more information.

In 2007 dying and dead non-native red pine were removed from Camping Area 1, Camping Area 6X, the Ruth Pond Trail, and in the vicinity of Keeler Pond (Rassman 2006a). Plantations of dead and dying red pine still occur elsewhere in the park.

Wildlife

No formal surveys have been conducted. However, Nickerson is a birding “hotspot” and species lists exist for different portions of the park. As of March, 2014, 53 species are listed for Crosby Landing, 82 for Crosby Beach, and 102 for Nickerson (www.ebird.org). Collectively, 145 different species of birds have been reported for the park and adjacent waters.

A recent investigation into the water quality at Cliff Pond documented four species of mussels and six species of fish (Water Resource Services, Inc. 2014).

7.3. CULTURAL RESOURCES

This section describes the known and potential cultural resource areas, including pre-Contact and post-Contact archaeological resources, and historic landscapes, buildings, structures, and objects. An overview of significant events in the history of Roland C. Nickerson State Park is presented in Table 7.3.1. Cultural Resources are identified in Table 7.3.2.

Table 7.3.1. Significant events in the history of Nickerson state park and associated properties.

Year(s)	Events
1934	Addie Daniels Nickerson and Helen Nickerson Sears donate land to the Commonwealth in memory of Roland C. Nickerson Sr. and Roland C. Nickerson Jr., thus establishing the first state park in the Commonwealth.
1935-1938	Civilian Conservation Corps (CCC) develops recreation facilities, constructs roads, creates fire breaks, and plants trees.
1938-c. 1945	Former CCC camp used for WWII veterans and later as a naval rest and relaxation camp.
1940s-1950s	Camping Areas 2-4 completed and Camping Area 5 constructed.
1951	Establishment of Department of Correction camps in state forests is authorized by the legislature “for the employment of prisoners in reforestation, maintenance and development.” (Chapter 755 of the Acts of 1951) A camp is soon established in Nickerson and in 1959 is named the Stephen L. French Youth Forestry Camp. (Chapter 140 of the Acts of 1959)
1955	Pilgrim Springs State Park is established in Truro; it is transferred to the United States of America in 1962 for inclusion in Cape Cod National Seashore.
Late 1950s	New park headquarters and operations yard constructed.
1960s	Camping Area 6 constructed.
1970s	Camping Area 7 constructed; French forestry camp expands.
1977	Legislature authorizes a 30-year lease for the Stephen L. French Youth Forestry Camp. (Chapter 765 of the Acts of 1977) This Act identifies the camp’s boundaries for the first time.
1983	Nickerson State Park begins expansion north of Route 6A, eventually including the former Camp Monomoy and Camp Seascapes.
1985	Permanent easement granted to the town of Brewster for constructing and maintaining a water main and other underground utilities.
1989	High Head Conservation Area in Truro acquired through multi-partner effort.
1992	Select structures and adjacent lands north of Route 6A are leased to the Cape Cod Repertory Theater Company (“Cape Rep”). (Chapter 518 of the Acts of 1991, as amended by Chapter 255 of the Acts of 1994)
1994	Legislature authorizes lease of historic buildings on DEM properties, including the Crosby Mansion and Graham House at Nickerson State Park. (Chapter 85 of the Acts of 1994)
1998	Former Gavigan property in Orleans acquired as part of the Namskaket Sea Path.
1999	Legislature authorizes lease of Crosby Mansion and two cottages to the town of Brewster. (Chapter 127 of the Acts of 1999)
2012	Day use fee implemented.

Table 7.3.2. Cultural resources of Nickerson state park and associated properties.

Location and Resource ^a	Type ^b	Date ^c	Condition ^d	Integrity ^e	In Use ^f	Utilities ^g	MHC # ^h	Guidance ⁱ
Old King's Highway Regional Historic District	NRHD	17 th –19 th c.	-	-	-	-	BRE.G	-
East Brewster	LHD	1795–1900	-	-	-	-	BRE.A	-
Park Entrance								
Comfort station	BU	1964	3	H	S	E, S, W(S)	-	1
Headquarters/Operations Area Landscape								
Park headquarters	BU	-	3	H	Y	E, H, I, S, T, W	-	1
Workshop/Garage	BU	-	3	M	Y	E	-	1
Camping Area 1								
CCC brick-lined kiln	ST	1930s	4	M	-	-	BRE.902	2
Crosby Cemetery	LA	1840s	-	H	-	-	BRE.801	3
Comfort station - South	BU	ca. 1960	3	H	S	E, S, W(S)	-	1
Park Store Area								
Park Store	BU	1930s	3	M	S	E, S, T, W(S)	-	2
Camping Area 4								
Comfort Stations (2)	BU	ca. 1950	3	H	S	E, S, W(S)	-	2
Pavilion	BU	1930s–1940s	3	H	S	-	BRE.904	2
CCC Camp Landscape	LA	1930s–1940s	-	L	-	-	BRE.K	4, 5
CCC Camp chimney	ST	1930s–1940s	3	H	-	-	BRE.920	2
CCC Camp foundations	ST	1930s–1940s	6	L	-	-	BRE.921	2
Eldredge Cemetery	LA	Mid-19 th c.	-	M	-	-	BRE.802	3
Camping Area 6								
Comfort stations (5)	BU	ca. 1960	3	H	S	E, S, W(S)	-	1
Pavilion	BU	1930s–1940s	3	M	S	-	-	1
Camping Area 6X								
Comfort stations (2)	BU	ca. 1960	3	H	S	E, S, W(S)	-	1
Pavilion	BU	1930s–1940s	3	H	S	-	-	1
Camping Area 7								
Comfort stations (2)	BU	ca. 1960	3	H	S	E, S, W(S)	-	1
Pavilion	BU	-	5	H	S	-	-	1
Building foundation and steps	ST	-	-	L	-	-	-	-
Cedar water tower	ST	-	3	H	-	-	-	1
Camping Area 5								
Former ice house site	AR	-	-	L	-	-	-	2
Stephen L. French Youth Forestry Camp - 456 Flax Pond Road^j	BU	-	-	-	-	-	-	-
Flax Pond Day Use Area								
Picnic area concrete slab and stone pier	ST	-	6	L	-	-	-	2
Pump house	ST	-	6	L	N	-	-	6
Former Camp Monomoy - 3381 Main Street								
Camp Monomoy Landscape	LA	Early-mid 20 th c.	-	-	-	-	-	5
Crosby House – Cape Rep Theater offices	BU	Late 18 th –early 19 th c.	2	M	Y	E, H, I, S, T, W	BRE.41	7
Robert J. Delahanty Outdoor Theater (200 seat)	ST	ca. 1959	3	H	S	E	-	1
Cape Rep Theater indoor theater (135 seat)	BU	1959	2	H	S	E, H, S, T, W	-	7
Cape Rep Theater Barn	BU	Late 19 th c.	3	H	Y	E	-	7
Linnell Cottage (Building 31)	BU	-	5	H	N	-	-	-

Location and Resource ^a	Type ^b	Date ^c	Condition ^d	Integrity ^e	In Use ^f	Utilities ^g	MHC # ^h	Guidance ⁱ
Crosby Estate - 163 and 179 Crosby Lane								
Crosby Estate (Crosby Mansion-Nickerson Park)	LA	1889	-	M	-	-	BR.E	4, 5
Crosby Mansion grounds	LA	1920s-1930s	-	M	-	-	-	8
Crosby Mansion	BU	1823/1888	3	M	Y	E, H, S, T, W	BRE.152	8
Crosby Cottage	BU	1920s-1930s	3	M	N	E, H, S, W	-	8
Crosby Garage	BU	1920s-1930s	3	H	N	-	-	8
Building near tennis courts	BU	1920s-1930s	6	L	N	-	-	6
Weathervanes Way								
Sully Cottage - 222 Weathervanes Way	BU	1920s	3	M	S	E, H, S, T, W	-	8
Additional Resources^f								
<i>Former school house remains</i>	AR	-	-	-	-	-	-	2
<i>Former Crosby livery stable foundations</i>	AR	-	-	-	-	-	-	2
<i>Multiple historic trails/roads</i>	LA	-	-	-	-	-	-	2
<i>Cement pads from CCC buildings</i>	AR	1930s	-	-	-	-	-	5
<i>Multiple bottle dumps</i>	AR	-	-	-	-	-	-	2
<i>Multiple cellar holes</i>	AR	-	-	-	-	-	-	2
<i>Former gunning camp blind</i>	AR	-	-	-	-	-	-	2
<i>Former boat/fish house site</i>	AR	-	-	-	-	-	-	2
<i>Former youth forestry camp</i>	AR	-	-	-	-	-	-	2
<i>Boundary marker</i>	OB	-	-	-	-	-	-	5
<i>Former hunting camp</i>	AR	-	-	-	-	-	-	2
<i>Former school house remains</i>	AR	-	-	-	-	-	-	2

- Geographic sub-regions of the park are identified in Figure 7.1.
- Resource types include the following: AR = Archaeological; BU = Building; CM = Cemetery; LA = Landscape; LHD = Local Historic District; NRHD = National Register Historic District; OB = Object; and ST = Structure.
- Date of construction provided, when known.
- Preliminary condition assessment using the building system and equipment condition codes as used in the Massachusetts Capital Asset management Information System (CAMIS). The following codes are used: 1 = Excellent-easily restorable to like new condition; 2 = Good-routine maintenance required; 3 = Adequate-some corrective and preventative maintenance required; 4 = Fair-excessive corrective maintenance and repair required; 5 = Poor-renovation needed; and 6 = Fail.
- Integrity is a relative assessment of the condition of a resource's retention of its historic character-defining features; H = High; L = Low; M = Medium; and U = Unknown.
- Use categories include: N = building is not in use; S = building is used on a seasonal basis; and Y = building is used year-round.
- The following codes are used to identify utilities associated with buildings: E = Electric, H = Heat; I = Internet; S = Septic system; T = Telephone; W = Water; and W(S) = Water is available on a seasonal basis. This information is included for all buildings.
- Massachusetts Historical Commission inventory number.
- The following guidance is offered for the ongoing maintenance of these cultural resources:
 - Refer to Historic Building Maintenance BMP (DCR n.d.i).
 - Refer to Archaeological Features BMP (DCR n.d.k).
 - Refer to Cemetery and Burial Grounds BMP. (DCR n.d.l).
 - Refer to Vegetation in Historic Landscapes BMP (DCR n.d.h).
 - Refer to Historic Landscapes - Built Features BMP (DCR n.d.g).
 - Refer to Mothballing Historic Buildings BMP (DCR n.d.j).
 - Under lease, refer to current lease.
 - Under Historic Curatorship Program, refer to current lease.
- Documented through the 1984/1985 Cultural Resources Evaluation Project but not yet field verified or confirmed.
- This Department of Youth Services camp was established within Nickerson ca. 1958; it has an unknown number of historic buildings.

ARCHAEOLOGICAL RESOURCES

Nickerson and its environs are well documented in the archaeological record. A total of seven pre-Contact sites are recorded within the park, and four systematic archaeological surveys have been conducted (MHC Reports # 138, 1597, 2552, 2898). Many additional sites are adjacent to and near the park and multiple surveys have been completed nearby. A pre-Contact site lies on high ground that separates Flax and Cliff ponds. The site was discovered on the knoll in the 1960s by Ray Seamans, a collector of Native American artifacts from Carver. In 1986, Seamans' collection was analyzed by the Massachusetts Historic Commission and subsequently recorded as 19-BN-580. Although contextual data is missing from the record, some interesting implications suggest that the site was occupied at least on two, and possibly three, occasions over the course of several thousand years. Significantly, relatively few Middle Archaic Period sites are known from the entire Cape. Only one other Middle Archaic site has been identified in Brewster, near Upper and Lower Mill Ponds. The inland setting of this site is of particular interest, because most pre-Contact sites on the Cape and Islands are coastal.

Nickerson state park has a high archaeological sensitivity. Steep and eroding slopes have a low archaeological potential. Native Americans undoubtedly traversed these same locations going to and from the water's edge from their camp sites which would have been located nearby on high, level, well-drained ground however evidence of that type of use would not survive the archaeological record.

HISTORIC RESOURCES

The 1,900-plus wooded acres that make up the bulk of the park once belonged to Roland Nickerson, a multimillionaire who founded the First National Bank of Chicago. The Nickerson's, who lived farther west on Mass. 6A in an opulent estate, now known as Ocean Edge Resort, had a hunting lodge in what is now the State Park. The Nickersons hosted private hunts at their "Bungalow Estates," as they referred to their sprawling retreat. Nickerson's wife, Addie, donated the land to the state in 1934 in honor of their son, a victim of the 1918 influenza epidemic, and in honor of her husband. In 1935 a Civilian

Conservation Corps (CCC) camp was established. The CCC constructed the first roads, campsites, parking and picnic areas near Flax Pond. The CCC also drilled wells, developed parking areas and hiking trails, and planted 88,000 white pine, hemlock, and spruce trees. During the three years of the camp's existence, Nickerson's basic design was carved out of the forest. The CCC camp disbanded in 1938 and for a few years a WW II veteran camp and then a naval rest and relaxation camp were located in the Park. When the state assumed management of the park in the early 1940s, Robert and Fred Hooper managed Nickerson, building upon the work of the CCC by developing additional recreational and camping facilities.

Historic Landscapes

Headquarters/Operations Area. This area includes a mix of historic and non-historic buildings and structures. (See Section 2.5 for information on non-historic infrastructure.) The Headquarters Building, built in the 1950s, is a unique structure built in a rustic style, with a central one story building flanked by connected garages on both sides. The building retains its clapboard siding, wood windows with screens, and loft doors and arms at the gable end of both garages. The woodshop to its west has been altered, with the two left side garage bays walled in with replacement windows added. A small storage shed appears to have been built when the headquarters and woodshop were constructed and shares a similar style. These buildings are arranged in a paved lot that retains its original dimensions as designed in the 1950s and despite the addition of new structures, retains its historic integrity as an example of a mid-century park headquarters and operations area.

Crosby Cemetery. This small family cemetery is located on a heavily wooded knoll west of Triangle Pond. There are two grave markers dating from 1816 and 1843. An ornamental split rail fence surrounds the cemetery; it is neither original nor historic. There are no other known features associated with this cemetery. Higgins (1984) considered the size of the plot and the number of stones present and speculated that additional graves may be present.



Nickerson's headquarters consists of a central office building flanked by two multi-bay garages. (See Appendix G for photo information.)

CCC Camp Site. Established in 1935, SP-19, housed CCC Company 1115. The camp was laid out in a typical CCC-camp configuration, with an officer's quarters at the head of a parade ground flanked by enrollee barracks. The camp operated from 1935 to 1938 and the enrollees developed much of the existing park infrastructure, including roads, a bathhouse (no longer extant), erosion control, forest conservation, beach improvements and the original contact station. The stone chimney from what was most likely the recreation building and a number of concrete features are the only remnants of the camp.



Chimney from former CCC building is the most prominent feature remaining at the CCC Camp Site historic landscape. (See Appendix G for photo information.)

Eldredge Cemetery. This small family cemetery contains two grave markers, one for "Capt. David Eldredge" and one for "Mrs. Tamzen wife of David Eldridge." These stones date from 1855 and 1836, respectively. The latter features a simple carving of a weeping willow. There are no other known historic

features. Like the Crosby Cemetery, this cemetery is also surrounded by a non-original, non-historic split-rail fence.



This Camp Monomoy shower building is one of many reminders of the property's former use. (See Appendix G for photo information.)

Former Camp Monomoy. Camp Monomoy started as Camp Mon-O-Moy in 1922, moving from West Harwich to Brewster in 1926. Robert J. "Captain Del" Delahanty founded the boys' camp, started Camp Wono for Girls in 1939, and added a day camping program in the 1960s, forming the Cape Cod Sea Camps. The camp was purchased in 1983 and added to Nickerson. Today the property consists of a number of concrete block and wood frame structures, building remnants and former athletic courts all in extremely poor condition.

In 1991, the Cape Rep was named lessee of some of the camp buildings as well as the Cape House and Barn through special legislation. Under the 25 year lease agreement, the non-profit theater uses the properties for theatrical programs and performances. The buildings include the 1790 expanded Cape Cod style residence that is used as offices, the late 19th century barn, which is used for storage, the mid-twentieth century Outdoor Theater, which was an outdoor Chapel at Camp Monomoy, and the former Camp Monomoy dining hall which is used as an indoor theater.



Cape Cod Repertory Theater Company's offices and artist residences are located in this 1790 Cape Cod style house at Nickerson. (See Appendix G for photo information.)

Crosby Estate. The 1888 eclectic 35-room Crosby Mansion is the centerpiece of Albert Crosby seaside estate. The mansion, named "Tawasentha" was built around Crosby's childhood home, an early 19th century cape-style house. The mansion is a study in Queen Anne style ornamentation and asymmetry, incorporating multiple styles into the exterior and interior design. Following the death of Crosby's widow Matilda in 1930, the mansion was used as a hotel, a school for the arts, and in 1959, became Camp Seascape for Girls.



Fireplace hearth and mantle in Crosby Mansion, bearing the house's original name, "Tawasentha." (See Appendix G for photo information.)

In 1985, DCR purchased the mansion, several outbuildings, and some cottages once connected to the Nickerson family estate as well as the former Camp Monomoy (see below). In 1999, legislation designated the town of Brewster, in partnership with the Friends of Crosby Mansion, as lessees for the Mansion, the Crosby Cottage and Garage, and two

seaside cottages (i.e., Sully and Graham). A 25-year lease was executed in 2003; it is managed through DCR's Historic Curatorship Program. The lessees rent the Sully and Graham cottages and use revenues generated to rehabilitate the Mansion. The town of Brewster has requested that the lease be amended to include a third DCR-owned cottage, so that additional revenues may be generated for upkeep of the Crosby Mansion. Since the lease began in 2003, the town of Brewster and Friends of the Crosby Mansion "have invested close to \$500,000 and thousands of dollars in volunteer labor and donated materials" into the rehabilitation, management and maintenance of the property as a house museum and event center (Foley 2015).

Buildings

Comfort Stations (facility-wide). Several of the park's comfort stations were designed and constructed in the 1960s, based on the same regionally influenced Cape Cod-style template, featuring wood shingles, simple wood trim and gable end roof forms. This design was also used at Shawme-Crowell State Forest (Section 2). Although simply constructed, this level of design consistency throughout a DCR facility is rare. This design is gradually being replaced by buildings constructed of textured concrete block.



Example of the park's historic comfort station, built in Cape-Cod style template. (See Appendix G for photo information.)

CCC-built Pavilions. Nickerson contains four CCC-built picnic pavilions that represent one of the best preserved collections of CCC-built recreational resources. The rustic style stone and timber construction of these structures are excellent examples of the distinctive style.



Example of CCC built pavilions located within Nickerson's camping areas. (See Appendix G for photo information.)

Structures

There are no structures that are not associated with a historic landscape.

Objects

There are no objects that are not associated with a historic landscape.

7.4. RECREATION RESOURCES

The most popular recreation activity is camping and nearly all the park's infrastructure is dedicated to this activity. There are 406 camp sites; arranged into eight camping areas. (Table 7.4.1; Figure 7.1) Campsites are open daily from early May through mid-October. Not all sites are available for the entire camping season; some camping areas are closed in the spring and fall, when there is reduced demand.

Table 7.4.1. Summary of camping resources at Nickerson state park.

Camping Resource	Total
Camp Sites (total)	406
Group sites	9
Pop-up Tent	149
Standard non-electric	203
Tent only	39
Yurts	6
Comfort Stations^a (total)	18
Winterized	0
Non-winterized	18
Shower Houses	2

a. Does not include comfort stations at the entrance and the Flax Pond day use area.

Use levels are generally high, with an overall occupancy rate of nearly 90 percent. (Table 7.4.2).

Table 7.4.2. Campsite occupancy rates, by type, at Nickerson state park.

Campsite Type	Occupancy Rate (%)
Group	54.1
Pop-up Tent	86.7
Standard non-electric	93.5
Tent only	79.6
Yurt	90.3
Total	88.9

In 2013, campers came from 45 states, 10 Canadian provinces, and two European countries. Most were from Massachusetts, the Northeast, or adjacent Canadian provinces. (Table 7.4.3)

Table 7.4.3. Common geographic origins of campers staying at Nickerson state park.^a

Geographic Origin	Percent ^b
Massachusetts	58.9
Quebec	7.3
New York	7.3
Connecticut	6.5
Unknown	3.1
New Hampshire	2.6
Rhode Island	2.2
Ontario	1.5
New Jersey	1.5
Vermont	1.4
Maine	1.0
Total	93.3

a. Only states and provinces with one or more percent of total camping registrations are included. Based on 2013 data.



Playground at Nickerson state park. (See Appendix G for photo information.)

There are few accessible campsites; the park does not meet the 5% accessibility minimum required under the Massachusetts Architectural Access Code (CMR 19.5.1). The shower houses are ADA compliant.

The park's dump station is located opposite Camping Area 4. It is used for dumping waste from self-contained campers (i.e., RVs) into a tight tank. Dumpsters are located in the parking lot opposite Camping Area 1; recycling is collected at a shed adjacent to the camp store.

In addition to camping, the following recreation activities take place at Nickerson:

- Bicycling, mountain
- Bicycling, road
- Boating (sail and power)
- Canoeing/kayaking
- Dog walking
- Fishing, fin fish
- Geocaching (9 as of March 2015)
- Hiking
- Horseback riding
- Live Theater (Cape Cod Repertory Theater Company)
- Nature study
- Picnicking
- Running/jogging
- Skiing, cross-country
- Swimming (salt and freshwater beaches)

A day-use recreation area is located on the eastern shore of Flax Pond. It includes a picnic area, bath house, and an unguarded beach that is open from Memorial Day to Labor Day. Several informal beaches, adjacent to camping areas and used by campers, are located on Flax and Cliff ponds.

Water quality at Cliff and Flax Ponds is tested weekly during the beach season. In the past decade there have been four exceedances of *Enterococcus* bacteria standards, all in Cliff Pond.

Coastal access is provided along the park's approximately 4,200 feet of shoreline on Cape Cod Bay. The sandy beach and shallow, warm waters of the Bay make it popular with beachgoers. Hundreds of acres of flats are exposed. Sections of the beach

are closed seasonally to protect state-listed beach-nesting birds. The beach is unguarded and there are no bathroom facilities. Portable toilets are available seasonally at two adjacent municipal beaches; Linnell Landing Beach and Crosby Landing Beach. There are no signs identifying the DCR-owned portions of the beach; they appear to be extensions of town of Brewster beaches. There are also no signs directing visitors between the beach and campgrounds.

The Barnstable County Department of Health and Environment tests water quality weekly during the beach season. In the past decade there have been 10 exceedances of *Enterococcus* bacteria standards at the Crosby Landing Beach; the most recent in August 2011. Weekly testing at Linnell Landing Beach began in June 2012; only one exceedance, in June 2012, has been recorded.

The park's coastal beach is also used for flying radio-controlled model airplanes. An informal group, known as the Crosby Lane Flyers, operates from the municipal parking lot on Crosby Landing. From this location they fly model aircraft over the surrounding dunes, marshes. The planes' flights and the flyers' movements across the dunes to retrieve downed planes has been observed to disturb nesting birds (Kelley 2014).

Boating occurs in the park's larger ponds and Cape Cod Bay. Office of Fishing and Boating Access (OFBA) boat ramps are located on the west side of Cliff Pond and the northern end of Little Cliff Pond. A car top boat launch area is located on the east shore of Cliff Pond, opposite the Little Cliff Pond boat ramp. An informal boat launch area exists on the western shore of Higgins Pond. A park concession, with facilities on Cliff and Flax ponds, rents a variety of watercraft including canoes, kayaks, stand up paddle boards, sailboats and pedal boats. An informal boat launch area exists on the western shore of Higgins Pond.

There is an internal bike path. See Trails, below, for additional information.

The Friends of Nickerson State Park (the Friends) arrange entertainment programming for park visitors and campers, including:

- Lucy Gilmore, Storyteller
- Marcus the Magician

- Music is Natural, Roger Ticknell
- Rainforest Reptiles
- Trevor the Juggler

7.5. INFRASTRUCTURE

Property Boundary

The park is irregularly shaped and largely surrounded by residential development. Roads and water bodies form only a small portion of its boundary, which is not posted. The boundaries of the former Gavigan property are not posted, nor are the boundaries of the DCR-owned parcel in the High Head Conservation Area.

One abutter, located at 3600 Main Street (Route 6A), Brewster, has a deeded 42-foot wide right of way across a portion of the park. (Book 3540, Page 027) This right of way is for “all purposes for which ways are commonly used in the town of Brewster.”

Buildings and Structures

Nickerson’s non-historic buildings reflect ongoing efforts to update camping amenities. (Tables 7.3.2 and 7.5.1) Approximately one-third of the park’s comfort stations are modern, constructed of brown textured masonry blocks in a traditional cape form. In contrast, the contact station and Camping Area 3 shower building retain both traditional Cape Cod design and materials. The modern comfort stations and both shower buildings are accessible; older comfort stations are not.



Comfort station at Flax Pond day use area, showing textured masonry block construction. (See Appendix G for photo information.)

Most DCR-owned buildings, both historic and non-historic, are in use by park personnel, concessionaires, or partners. Those not in use are mostly associated with the former Camp Monomoy.

Utilities vary among buildings. (Tables 7.3.2 and 7.5.1) Shower buildings in Camping Areas 3 and 6 have oil-fired boilers; both have twin external 275 gallon tanks. Cottages on Weathervanes Way also use oil. Propane is used to heat water at the north comfort station in Camping Area 4. The park headquarters, Crosby Mansion, and heated buildings at the Cape Rep use natural gas. The contact station has a combination electric heating and cooling unit.

Also within the park are a Bureau of Fire Control and Forestry fire observation tower and The Stephen L. French Youth Forestry Camp. The latter is a Department of Youth Services facility that contains a ropes course, administrative buildings, cabins, workshops, and sheds. There is no public access. Additional information on the fire observation tower is provided in Section 15.

There are 31 active septic systems; they discharge to groundwater. These are associated with the campground, staff buildings, Cape Cod Repertory Theater, Crosby Mansion, and the Stephen L. French Youth Forestry Camp. These septic systems have a total design flow of 50,926 gallons per day. Waste from recreational vehicles is discharged into a “tight tank” at the dumping station. All potable water is provided by the Brewster Water Department.

Table 7.5.1. Non-historic buildings and structures of Nickerson state park and associated properties.

Location and Infrastructure^a	Date^c	Condition^b	In Use^d	Utilities^e
Park Entrance				
Contact station	2005	1	Y	E, H, I, S, T, W
Headquarter/Operations Area				
Shed	ca. 2013	1	Y	-
Storage shed	-	3	Y	-
Flammables shed	-	2	Y	-
Nature Center	-	4	S	E
Camping Area 1				
Amphitheater	-	3	-	E
Comfort station 1 – North	-	2	S	E, S, W(S)
Comfort station 2 – Central	-	2	S	E, S, W(S)
Camping Area 2				
Comfort station	-	3	S	E, S, W(S)
Camping Area 3				
Comfort station	1990	4	S	E, S, W(S)
Shower building	-	2	S	E, S, W(S)
Pump house	-	2	S	E, W
Park Store Area				
Park store shed	-	2	S	E
Recycling shed	-	4	S	-
Camping Area 4				
Comfort station 1 - North	-	3	S	E, S, W(S)
Dumping station	1972	2	-	E, S
Fisherman's Boat Access – Nook Road				
Boat ramp (OFBA ID# 165)	-	2	-	-
Camping Area 6				
Shower Building	-	4	S	E, S, W(S)
Pump House Shed	-	2	S	E, W
Camping Area 5				
Comfort Station	-	5	S	E, S, W
Flax Pond Day Use Area				
Comfort Station	-	2	S	E, S, W(S)
Boat Rental Shed 1	-	3	S	-
Boat Rental Shed 2	-	2	S	-
Boat Locker 1 ^f	-	5	S	-
Boat Locker 2 ^f	-	2	S	-
Boat Rack ^f	-	3	-	-
Stephen L. French Youth Forestry Camp – 456 Flax Pond Road^{f, g}	-	-	Y	-
Fisherman's Boat Access – Flax Pond Road				
Boat Ramp (OFBA ID# 104)	-	3	-	-
Cliff Pond				
Boat Rental Shed	-	3	S	-
Former Camp Monomoy – 3381 Main Street				
Three-bay Garage (Building 32)	ca. 1970	4	Y	E, H, S, W
Crosby Estate – 163 and 179 Crosby Lane				
Amphitheater	-	3	-	-
Weather vanes Way				
207 Weather vanes Way	1970	3	N	E, H, S, T, W

Location and Infrastructure ^a	Date ^c	Condition ^b	In Use ^d	Utilities ^e
235 Weathervanes Way – Graham Cottage	1967	2	S	E, H, S, W(S)
Cape Cod Bay				
Rock groins (3)	-	3	-	-

- Geographic sub-regions of the forest are identified in Figure 2.1.
- Preliminary condition assessment using the building system and equipment condition codes as used in the Massachusetts Capital Asset Management Information System (CAMIS). The following codes are used: 1 = Excellent-easily restorable to like new condition; 2 = Good-routine maintenance required; 3 = Adequate-some corrective and preventative maintenance required; 4 = Fair-excessive corrective maintenance and repair required; 5 = Poor-renovation needed; and 6 = Fail.
- Date of construction provided, when known.
- Use categories include: N = building is not in use; S = building is used on a seasonal basis; and Y = building is used year-round.
- The following codes are used to identify utilities associated with buildings: E = Electric, H = Heat; I = Internet; S = Septic system; T = Telephone; W = Water; and W(S) = Water is available on a seasonal basis. This information is included for all buildings.
- Infrastructure located on DCR property, but not owned or controlled by the DCR. Its condition is not assessed.
- This Department of Youth Services camp was established within Nickerson ca. 1958; it has an unknown number of non-historic buildings.

Roads

The park's main entrance is located on Route 6A. Traffic surveys conducted immediately east of the park entrance in 2013 identified an annual average daily traffic volume of 12,611 vehicles and a summer average daily traffic volume of 16,593 vehicles (Cape Cod Commission 2014). There are no internal park traffic counts.

There are two main paved roads within the park: Deer Park Road – Nook Road to the west and south of the ponds; and Flax Pond Road to the east of the ponds. Both are dead ends. Additional paved roads are associated with the camping areas. (Figure 7.1) Each camping area has a network of paved roads providing access to sites.

There are approximately 11 miles of roads. Their conditions are summarized, by surface type, in Table 7.5.2.

Table 7.5.2. Condition and length of roads at Nickerson state park^a

Road Condition	Paved (Miles)	Unpaved (Miles)
Good	8.52	1.98
Fair	0.37	0.11
Poor	0.00	0.00
Total	8.89	2.09

- Based on field assessment; all distances calculated using GIS.

MassDOT and the town of Brewster have developed plans to add a sidewalk along Route 6A, adjacent to Nickerson. This construction involves relocation of the current crosswalk, which will require modification of connecting trails within the park.

Parking

Parking is available throughout Nickerson. (Table 7.5.3) Campers are allowed up to two vehicles per site. Additional vehicles, including boats on trailers, may be parked in lots located adjacent to Camping Areas 1, 4, 6, and 7. Day use visitors use parking lots adjacent to the Contact Station, at the Flax Pond Day Use Area, or adjacent to boat ramps. In 2014, self-service “pay and display” parking permit dispensers were installed at the Contact Station and at the entrance to the CCRT. All vehicles parked in Nickerson must display either a day parking permit or a permit issued to campers.

Table 7.5.3. Number of public parking spaces, by location and type, at Nickerson state park.

Location	HP	Other	Total
Contact Station ^{b, c}	2	0	2
Day use parking at entrance ^d	0	64	64
Area 1 parking ^d	0	35	35
Playground ^d	2	17	19
Areas 1–4 showers ^d	0	26	26
Park store ^d	0	7	7
Area 4 parking ^d	0	49	49
Cliff Pond boat ramp ^e	0	16	16
Nook Road lot ^d	0	7	7
Area 6 showers ^d	0	22	22
Area 6 parking ^d	0	80	80
Area 7 parking ^d	0	24	24
Day use – picnic area ^f	0	13	13
Day use – beach ^{b, g}	2	33	35
Little Cliff Pond boat ramp ^d	0	26	26
Crosby Mansion – along Crosby Landing ^d	0	34	34
Crosby Mansion – Grass lot ^d	0	60	60
Cape Rep – 10 minute parking ^d	0	2	2
Cape Rep – HP lot – Delahanty Outdoor Theater ^b	2	0	2
Cape Rep – Indoor theater ^b	3	46	49
Total	11	561	572

- In addition to the parking lots, up to two vehicles are allowed at each camp site.
- Number of spaces is based on pavement markings and/or signs.
- Two staff only spaces are also located adjacent to the contact station.
- Number of spaces is based on the number of potential 9-foot-wide perpendicular spaces.
- Number of spaces is based upon the number of 9 x 18-foot vehicle spaces estimated to fit among the trees.
- Number of spaces is based upon the number of 9-foot-wide, 45-degree angled parking spaces.
- HP spaces are located away from the main lot, next to comfort station.

There are no accessible parking spaces at the day use lot near the park's entrance, at shower buildings, or at the park store. The total number of accessible spaces in the park does not meet the 2% of total requirement.

Coastal beach parking is limited. The day use lot at the park entrance is for both CCRT and beach parking. Beachgoers also park along Crosby Lane on the grounds of the Crosby Mansion. The town of Brewster operates two beach parking lots adjacent to the park, with a total capacity of 86 vehicles. Municipal parking permits are required for both lots.

Throughout the RMP planning process, the Brewster Select Board expressed interest in working with DCR to create beach parking on the grounds of former Camp Monomoy.

Employee vehicles are parked in either the operations yard or adjacent to the Contact Station.

Trails

Nickerson includes a mixture of paved trails and formal and informal gravel or natural surface trails. The number of miles of official trails, by condition, is presented in table 7.5.4. There is an additional 7.56 miles of pave bike path.

Table 7.5.4. Condition and length of official trails at Nickerson state park.

Trail Condition	Length (Miles)
Good	22.40
Fair	10.31
Poor	1.94
Total	34.65

The Robert B. Hooper Memorial Bicycle Trail is a paved 6.08 mile bike path within the park. It does not connect to the CCRT or the Flax Pond day use area. The Nickerson Healthy Heart Trail overlaps portions of the Hooper Trail; some overlapping segments are closed for repair.

The park's trails network includes loop trails around Flax, Cliff, and Little Cliff Ponds. An extensive network of braided trails has developed to connect these pond loops to nearby campgrounds; especially between Camping Area 4 and Cliff Pond. Erosion associated with these trails is causing sedimentation along pond shores (Water Resource Services, Inc. 2014).



Area 4 campers have created a braided network of trails (identified in yellow) to Cliff Pond. This network creates confusion for trail users and promotes erosion into the pond. (See Appendix G for photo information.)

An unmapped network of unauthorized trails cuts through the dunes along Cape Cod Bay, destabilizing dunes and creating channels for storm surge.



Numerous unauthorized dune crossings are visible in this image of Nickerson's barrier beach. The paved area in the center of the image is the town of Brewster's municipal parking lot on Crosby Lane; the main beach access immediately north of this lot is on town of Brewster property. (See Appendix G for photo information.)

Namskaket Sea Path, the first intertidal hiking trail in Massachusetts, extends from Nickerson's bayside beach in Brewster to the town-owned Skaket Beach in Orleans. It is passable only at low tide, and requires wading across Skaket Creek and walking across at least 1,000 feet of flats. It lacks suitable markers.

Kiosks and Signs

Three kiosks are located near the park entrance. Bulletin boards are located in the entrances to the shower buildings and on the front of the camp store. New England Orienteering Club maps of the park are laminated and posted along the Hooper trail. There are no signs at the Cape Cod Repertory Theater, Crosby Mansion, along Cape Cod Bay, or at the former Gavigan property to identify these areas and facilities as part of Nickerson State Park.

Iron Ranger

There is no iron ranger.

Memorials and Markers

There are two markers, and four memorial benches. An ornamental stone bearing a metal plaque commemorating Johnny Kelly's fiftieth Boston Marathon is located near the Amphitheater. A metal plaque honoring a past president of the Friends of Nickerson State Park is attached to a rock in the Flax Pond day use area. Memorial benches are located in the playground, Flax Pond picnic area, adjacent to the Flax Pond bathhouse, and near the Little Cliff Pond boat ramp.

Chapter 235 of the Acts of 2000 named the paved bicycle trail within Nickerson the "Robert B. Hooper Memorial Bicycle Path", and mandated the erection and maintenance "of suitable markers bearing said designation." No markers were ever established.

7.6. INTERPRETATION

Nickerson has a long-term seasonal Park Interpreter who prepares and presents a variety of interpretive programs. The following programs were offered during the 2014 camping season.

- Barrier Beach Ecology
- Coastal Erosion
- Creature Feature: Flax Pond Beach
- Creature Teachers (Friends of Nickerson State Park)
- Crosby Mansion Open House (Friends of the Crosby Mansion)
- Early Birding
- Explore NSP; including: Higgins Pond, and NSP: Secret Side

- Finding Your Way with Orienteering
- Geocaching Nickerson State Park
- Junior Rangers; including: Animal Detectives; Animal Tracking; Geology; Orienteering; Trees and Forestry; and Watershed Wisdom
- Kiddleidoscope, including: All About Butterflies; Animals of the Forest; Awesome Owls; Don't Bug Me; Fabulous Fish; and Together with Turtles
- Land Navigation Adventures
- Mammals of Nickerson
- Nature Exploration, including: Cliff Pond; Critical Watersheds; Forest Discovery; Grassy Nook Pond; Grassy Nook Vernal Pool; Little Cliff Pond; Nickerson State Park Watershed; and Wildlife Discovery
- Night Walk
- Off the Beaten Path Hike, including: Cliff Pond; Higgins Pond; Nature Center; and Secret Side of Nickerson State Park
- Stroll by the Bay
- Tracking Walk

Programs are presented for all ages, with Kiddleidoscope programs intended for ages 3-6, Junior Ranger programs intended for ages 8-12, and Nature Exploration and Off the Beaten Path programs for the entire family. Programming is offered throughout the park, at the Nature Center, and at the amphitheater.

Off-season programs are offered by the Regional Interpretive Coordinator. In 2014 this included a naturalist-led hike in March and the Becoming an Outdoors Family program was offered during the April school vacation week.

7.7. MANAGEMENT RESOURCES

Staffing

DCR Personnel

Nickerson is managed by MassParks Staff; there are four year-round personnel and one vacant position. (Table 7.7.1) Seasonal employees provide additional staffing from Memorial Day through Columbus Day.

Table 7.7.1. Mass Parks personnel assigned to Nickerson state park; current and past.

Job Title	Number of Positions 2014	Number of Positions 1992 ^a
<i>Year-round Personnel</i>		
Bookkeeper II	1	0
Forest and Park Regional Coordinator	1	0
Forest and Park Supervisor I	0.5	1
Forest and Park Supervisor II ^b	1	0
Forest and Park Supervisor III	0	1
Laborer II	1.5	3
<i>Seasonal Personnel</i>		
Forest and Park Supervisor I	4	1
Laborer I (Short-term) ^c	4	7
Laborer I (Long-term) ^c	4	7
Laborer II (Short-term)	1	0
Park Interpreter (Long-term)	1	0
Recreation Facility Repairer	1	0
Recreation Facility Supervisor I (Short-term)	1	0
Recreation Facility Supervisor IV	1	0

a. Information from GOALS Plan (DEM 1993); these 1992 staffing levels did not meet minimum recommended staffing.

b. This position is currently vacant; its duties are being performed by a Laborer II.

c. The GOALS plan (DEM 1993) identifies a total of seven Laborer I positions for 1991-1992, but does not distinguish between short-term and long-term seasonal positions.

Partnerships and Volunteers

Several partner groups expand public recreation opportunities at Nickerson and help maintain and enhance its resources.

The Friends of Nickerson State Park sponsor park programming, administer the Adopt-A-Trail program, and volunteer at the Crosby Mansion. They are supported through membership and donations, and raise funds through pancake breakfasts, an annual yard sale, and an annual kayak raffle.

The Cape Rep maintains buildings and grounds within their control and offers six to eight plays per year. Their activities are supported by ticket sales, donations, and grants.

The Friends of Crosby Mansion sub-lease the mansion and associated buildings and grounds from the town of Brewster, which leases the property from the DCR. Six open houses are offered annually. They fund their efforts by renting the mansion for weddings and other functions, through fees associated with the weekly rental of cottages at 222 and 235 Weathervanes Way, and through donations.

The Truro Conservation Commission manages the High Head Conservation Area on behalf of the Town, DCR, and MassDOT.

Public Safety

Brewster Fire Department provides fire response and emergency services.

Funding

Conservation Trust Fund

There are no Nickerson-related funding sources.

Retained Revenue

The summer 2013 camping season generated approximately \$633,016 in revenue which counted toward DCR's retained revenue cap. The park store generates \$6,700 and the boat concession \$3,050 in annual revenues.

7.8. MANAGEMENT PRACTICES

Management of DCR properties is guided by a variety of regulations, policies, BMPs (e.g., Table 7.3.2), legal agreements, and institutional knowledge. This section describes those practices unique to the management of Nickerson. Legal agreements unique to the park are listed in Table 7.8.1.

Table 7.8.1. Key legal agreements for Nickerson state park.

Party and Subject of Agreement	Type^a	Expiration Date^b
Department of Youth Services Lease agreement between the DEM and DYS for youth services facility. <i>Authorized by Chapter 765 of the Acts of 1977</i>	L	2007 ^c
John Ferreira; Jack's Boat Rental Concession Permit for a boat rental.	P	2008 ^d
Richard Brown Concession Permit for a camp store.	P	2011 ^d
Cape Cod Repertory Theater Lease agreement by and between the Cape Cod Repertory Theater Company and The Commonwealth of Massachusetts for certain structures and adjacent land within Nickerson State Park. <i>Authorized by Chapter 518 of the Acts of 1991</i>	L	2016 ^e
Dream Day on Cape Cod; Camp Nan-Ke-Rafe MOU to establish a process to charge for electricity use by private abutters. (In development)	U	2018
Town of Brewster Lease agreement by and between the town of Brewster and The Commonwealth of Massachusetts for the Crosby Mansion properties. <i>Authorized by Chapter 127 of the Acts of 1999</i>	L	2028

- Agreement types include: L = Lease; P = Permit; S = Special Use Permit; U=Memorandum of Understanding.
- Year that agreement was signed.
- Initial term of 30 years; renewable upon agreement of both parties. This agreement has been renewed.
- These agreements have been extended on an annual basis.
- Option for 30-year renewal.

Key management and guidance documents are identified in Table 7.8.2.

Table 7.8.2. Key management and guidance documents for Nickerson state park and associated properties.

Author and Document	Year
Truro Conservation Commission, The Truro Conservation Trust, and Massachusetts Coastal Zone Management Office. High Head Conservation Area management plan.	1989
Massachusetts Department of Environmental Management Guidelines for Operations and Land Stewardship: Roland C. Nickerson State Park.	1993
Gannett Fleming, Inc. Environmental Audit Report. Cape Cod Bay property, Brewster, Massachusetts.	1998 ^e
Natural Heritage and Endangered Species Program Biodiversity of Nickerson State Park and Hawksnest State Park.	2008
Massachusetts Department of Environmental Protection. Groundwater Discharge Permit 862-0.	2009
Massachusetts Department of Conservation and Recreation. Fire District # 1, Nickerson state park, 2013 fire road improvement plan.	2013
French, T. Nickerson State Park; Brewster. Fire Road Improvement Plan. NHESP Tracking No. 13-32131.	2013

Management guidance for the town of Brewster's surface and ground waters, including those in and under Nickerson, may be found in Horsley Witten Group, Inc. (2013).

Annual Maintenance

Ongoing management practices typically follow a regular schedule. Common activities, and the desired frequency with which they occur, are identified in Table 7.8.3.

Table 7.8.3. Annual cycle of management activities at Nickerson state park.

Activity	Spring ^a	Summer ^a	Fall ^a	Winter ^a
Bathroom-Open for season	A	N/A	N/A	N/A
Bathroom-Winterize	N/A	N/A	A	N/A
Cleaning - Bathroom(s)	E1	E1	E1	N/A
Cleaning - Catch basin, drains/culverts	AN	AN	AN	N/A
Cleaning-Campsites	AN	AN	AN	N/A
Cleaning - Walkways	A/N	AN	AN	N/A
Litter removal-Recreation areas	N/A	E1	AN	AN
Litter removal - Trails	AN	AN	AN	AN
Maintenance - Picnic sites, fences, etc.	AN	AN	AN	N/A
Mowing and trimming	AN	E14	AN	N/A
Mulching and fertilizing	N/A	N/A	N/A	N/A
Playground inspection	AN	AN	AN	N/A
Pruning - Trees and shrubs	AN	AN	AN	AN
Sweeping - Walkways	AN	E1	AN	AN
Trash - Empty - Barrels	AN	AN	AN	N/A
Trash - Empty - bathroom	E1	E1	E1	N/A
Weeding - Flower beds and grassy areas	N/A	AN	N/A	N/A
Weeding - Paved areas	N/A	N/A	N/A	N/A

a. Frequency codes are: A = Annually; AN = As needed; D = Daily, # times; E = Every # days; N/A = Not applicable.

Natural Resources

Water Resources

Water Resources. The Groundwater Discharge Permit (#862-0) for the park covers 31 Subsurface Sewage Disposal Systems (SSDSs) that serve a 403 site campground, three cottages, four staff buildings, the Cape Rep Theater, Cape Rep Crosby Cape House, Crosby Mansion, and the Stephen L. French Youth Forestry Camp. This permit specifies a variety of monitoring and reporting activities, including: pumping and formally inspecting all septic tanks at least once every three years and sampling and analyzing groundwater from up- and down-gradient monitoring wells on a quarterly basis. These activities are performed under contract for the

DCR. The current Groundwater Discharge Permit, which has an expiration date of June 9, 2014, was automatically extended four years under the Permit Extension Act (Section 173 of Chapter 240 of the Acts of 2010).

Septage accumulated in the dumping station's tight tank is transported off-site for treatment and disposal. This takes place approximately 12-15 times during the peak camping season.

The Flax Pond comfort station's composting toilets are maintained and serviced by a contractor on an as needed basis.

Phosphorous inactivation and oxygenation have been proposed to reduce or eliminate algal blooms in Cliff Pond (Water Resource Services, inc. 2014) Inactivation through the addition of a phosphorous binding aluminum compound is recommended, followed by oxygenation on an as needed basis.

Rare Species

Beach-nesting birds protected under MESA are monitored and managed by MassAudubon under contract to the DCR.

The NHESP (2008) divided rare species habitats at Nickerson into five management units. Two of these, the Coastal Plain Pondshore Management Unit and the Coastal Shore and Dune Management Unit, are considered the highest priority for management. Specific recommendations are identified in NHESP (2008); they have not yet been implemented.

Invasive Species

There are no monitoring or management activities.

Vegetation

The DCR does not apply fertilizer in this park.

Fire break management is performed in accordance with an approved Habitat Management Plan. (Gregory 2013).

There is one CFI plot (#3864); it is located on the edge of an Atlantic white cedar swamp.

Wildlife

MassWildlife stocks brook and rainbow trout in Cliff, Little Cliff, Flax, and Higgins Pond; brown trout in Cliff, Little Cliff, and Flax ponds; tiger trout in Higgins Pond; and broodstock Atlantic salmon in

Cliff Pond (MassWildlife 2005, 2006a, 2006b, 2006c).

Cultural Resources

Portions of the park are within the Old Kings Highway Regional Historic District. Changes in the exterior of buildings, structures, fences; new construction; and demolition are subject to review by the Old King's Highway Historic District Committee. See the Committee's web page for additional information.

(<http://www.townofbarnstable.us/OldKingsHighway/>)

Recreation Resources

The Camp Store and boat rental concession are operated in accordance with terms identified in annual permit agreements between the DCR and concessionaires. (Table 7.8.1)

Hunting and trapping at Nickerson are specifically prohibited under DCR's Parks and Regulation Rules (302 CMR 12.11(3)).

The use of watercraft in Nickerson's ponds is also specifically addressed in DCR's Parks and Recreation Rules. Only car top boats may be used in Flax, Little Cliff, and Higgins ponds (302 CMR 12.07(10)). Car top boats and motorized watercraft with electric motors may be used in Cliff Pond (302 CMR 12.07(11)).

Camper-generated recyclables are sorted and bundled by a host camper, with the assistance of the Friends. Recycling is transported to the Brewster transfer station as needed.

Brewster Day Camp brings campers to Cliff and Little Cliff Ponds for sailing lessons. They provide camp staff on the sailboats and also provide a staffed chase boat for safety. These activities are covered under an annual recreation permit. The Camp has expanded its facilities at 3570 Main Street into the park, including a function tent, yurt, athletic field, and archery range. There is no agreement for this.

Hunting is not allowed on Nickerson. Those hunting on adjacent lands do not always recognize the park's boundary, resulting in reports of hunters within the park.

Infrastructure

Buildings

Maintenance and repairs to Cape Rep buildings, and Crosby Mansion and associated buildings are performed in accordance with the terms of their respective agreements.

Roads

Fire roads, including Ober Road and roads near Higgins and Eel ponds, are managed in accordance with an approved fire road improvement plan (DCR 2013). This plan was developed to increase access for recreational users, fire suppression resources, and medical emergency equipment. Mowing is restricted to the use of a boom mower, which is to remain on the road, and brush may only be cut to a height of “no less than six (6) inches” (French 2013).

Camp Nan-Ke-Rafe, which is operated by Dream Day on Cape Cod, is located between Route 6 and Nickerson’s southern border; access is solely through the park. A 2008 MOU allows access through the park. (Table 7.8.1) The Camp obtains its electricity from the park; the memorandum establishes a mechanism for DCR to charge for this. In order to access the electric meter, the DCR plows snow along Deer Park Road and Nook Road from the park entrance to Nan-Ke-Rafe path.

The Division of Youth Services plows snow on Flax Pond Road from its intersection with Deer Park Road to the Stephen L. French Youth Forestry Camp.

The Town of Brewster holds a permanent easement for a 16-inch water main and underground power lines under Silas Road.

A 3-year Special Use Permit was issued in 1999 to allow the Christian and Missionary Alliance Church, to use a 42-foot wide strip of DCR land to access their property from Route 6A. Approximately 0.18 acres of the park were paved to create a driveway to the church, which is now the Cape Cod Bible Alliance Camp. There is no current agreement for its use.

Parking Areas

There are no activities unique to this park.

Trails

Trails are maintained by volunteers, including members of the Friends.

Kiosks and Signs

Park employees are responsible for updating the content of kiosks and bulletin boards.

7.9. RECOMMENDATIONS

Introduction

This section provides recommendations for the near- and long-term management of Roland C. Nickerson State Park. Applied Land Stewardship Zoning recommendations provide general guidance for managing Nickerson. Future activities and projects should be checked against the zoning map (Figure 7.2) for consistency. Management recommendations for Nickerson are all high-priority, and should be addressed as soon as resources become available.

Applied Land Stewardship Zoning (Figure 7.2)

The following Land Stewardship Zoning is recommended.

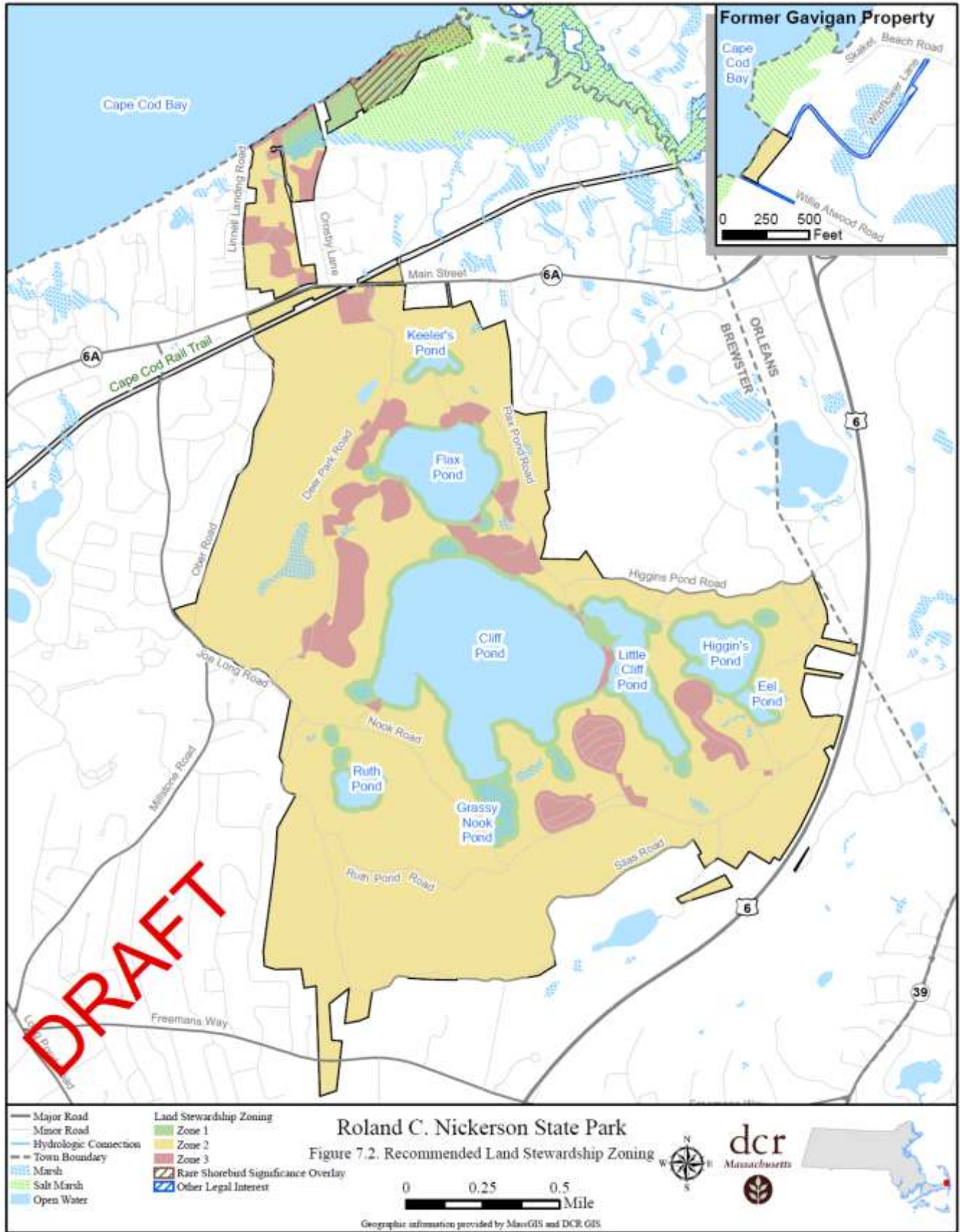
Zone 1

The following sections of Nickerson have been designated Zone 1.

- The shores of Keeler, Flax, Cliff, Ruth, Grassy Nook, Little Cliff, Higgins, and Eel ponds and associated unnamed wetlands, with the exception of existing, formally developed recreation facilities. (See Zone 3 description, below, for specific exceptions.) This area extends from the water line to a point 100 feet landward of the water line. The extent of this zone varies with water levels.
- The entire barrier beach dune system (i.e., Br-1) landward of the beach.
- The High Head parcel, Truro.

Zone 2

- All areas not specifically designated as Zones 1 or 3.
- The former Gavigan property, Orleans.



Zone 3

The following portions of Nickerson are currently developed, appropriate for potential future development, or intensively used for recreation. They have been designated Zone 3.

- The Entrance and Headquarters/Operations areas, including the contact station, day use parking, adjacent comfort station and picnic area, park headquarters, workshop, associated sheds, and the Nature Center.
- Camping Area 1, including the parking area west of Deer Park Road.
- Camping Areas 2, 3, and 4; including the playground, camp store, parking area, fire tower area, and dump station.
- Camping Areas 6 and 6X, including the shower building and parking area.
- Camping Area 7 and Camping Area 7 parking lot.
- Camping Area 5.
- Flax Pond Day Use Area; including picnic area, parking lots, comfort station, and existing beach.
- Boat concessions on Flax and Cliff ponds, with immediate shoreline.
- The Stephen L. French Youth Forestry Camp.
- Office of Fishing and Boating Access boat ramps at Cliff and Little Cliff ponds, including adjacent parking.
- The Cape Rep area and contiguous developed areas.
- The Crosby Mansion lease area and contiguous developed areas.
- Existing paved athletic courts at the former Camp Seascape.
- Existing paved and developed areas at former Camp Monomoy, outside of the Cape Rep area.
- DCR-owned residential lots on Weathervane Way.
- The coastal beach, from the foredune to the low tide line. This area is intensively used for swimming and sunbathing.

Significant Feature Overlay

The following Significant Feature Overlay was developed to protect resources.

- ***Rare Shorebird Significance Overlay, with NHESP management guidelines.*** This overlay covers piping plover nesting and foraging areas, and common and least tern nesting areas. Beach and dune closures within this overlay area may occur as needed and may expand or contract over time.

Management Recommendations

Twenty-three priority management recommendations were developed for Roland C. Nickerson State Park. (Table 7.9.1) For a recommendation to be considered priority it must address one or more of the following criteria:

- Regulatory compliance or compliance with legal agreements.
- Threats to the health and safety of park visitors and employees.
- The imminent loss of a natural, cultural, or recreation resource.

Additional maintenance and management needs observed during the preparation of this RMP, but not meeting one or more of the above criteria, are not included in this plan.

All recommendations are of equal priority.

Table 7.9.1. Priority recommendations for Nickerson state park and associated properties.

Recommendation	Implementation^a
Implement Cliff Pond management recommendations to control algal blooms.	C, O, R
Prepare a barrier beach management plan.	P
Continue the existing management and monitoring of state-listed beach-nesting birds; expand management area as potential habitat increases.	C, P, R
Work with the town of Brewster to develop a mutually agreeable arrangement for leasing the house at 207 Weathervanes Way.	O, P, V
Work with MassDOT and the Town of Brewster to direct park visitors crossing Route 6A to the proposed new crosswalk by modifying existing trails and signs.	P, R
Assess loop trails around Cliff, Flax, Higgins, and Little Cliff ponds for impacts to examples of the Coastal Plain Pondshore community type. Close or reroute trails, as necessary, to eliminate or prevent trampling. Install signs indicating “Globally Rare Natural Community; Please Stay on Trail.” Provide interpretive information to campers at check-in.	P, R, V
Reduce the number of trails from camping areas to ponds; close and restore eroding trails on steep slopes. Designate and sign official connector trails from camping areas to ponds.	R, V
Survey Coastal Shore and Dune Management Unit (NHESP 2008) for presence of historically occurring state-listed plants. Use findings to inform locations of dune crossings and closures.	P
Convert two dune crossings to well-defined corridors; close and restore all other informal dune crossings. Limit travel behind dunes to the existing road bed. Use post and rope fencing and regulatory and informational signs, as employed at South Cape Beach State Park, to define visitor access corridors.	P, R, V
Erect a kiosk adjacent to the Crosby Lane parking area that identifies the DCR-owned portions of the beach and lists park rules.	R, V
Remove temporary stump piles containing debris from 2005 storm cleanup; transfer to permitted solid waste facility or use for ecological restoration.	F
Apply the design standard of the park’s comfort stations to any proposed new construction, and repair of existing buildings should be done in kind according to the same template, in consultation with the Office of Cultural Resources.	E, P, R
Conduct a comprehensive survey to assess the significance of Camp Monomoy, the condition of the existing buildings, and the potential for archaeological resources. This assessment should be done before any decisions are made regarding demolition or reuse of the site.	P
Assess and document Flax Pond pump house. Perform additional background research to determine whether the building dates from the CCC period. If the structure cannot be repaired, and if no DCR reuse can be identified, it should be photo documented and removed.	E, P, R
Perform a comprehensive conditions assessment on the four CCC-built pavilions and prioritize repair projects. Identify those projects that can be done by staff and those that will require a specialized contractor.	E, P, R, C
Install accessible picnic tables and cooking rings at 21 or more campsites, including all yurt campsites. Work with Reserve America to identify these sites as accessible in reservation system.	R, U
Rehabilitate comfort station in day-use lot at park entrance to make accessible.	C, E, P
Post the former Gavigan property as DCR property and erect a small signboard with park rules.	R
Create van accessible parking spaces at the day-use lot at the park entrance (two spaces), shower buildings (two spaces each), and the park store (one space). Install proper van accessible pavement markings and signs at the playground and at the Flax Pond day-use area comfort station.	C, E, U

Recommendation	Implementation ^a
Establish markers identifying the bicycle path within the park as the Robert B. Hooper Memorial Bicycle Path, in accordance with Chapter 235 of the Acts of 2000.	R
Post boundaries with adjacent conservation and municipal lands to inform hunters of the park's location and hunting policy.	R
Fill vacant Forest and Park Supervisor II position.	O, R
Establish agreement with Brewster Day Camp for recreation facilities constructed on Nickerson in 2013.	L, R

- a. The following codes identify the party or parties responsible for implementing the recommendations: B = Bureau of Ranger Services; C = Contractor; E = Division of Engineering; F = Bureau of Forest Fire Control and Forestry; L = Legal Services; O = Other; P = Bureau of Planning, Design & Resource Protection; R = Regional and district staff; U = Universal Access Program; V = Volunteer or partner; and X = Office of External Affairs and Partnerships.